

**REMARKS**

Claim 6 is rejected under 35 USC § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The examiner stated that claim 6 recites "only one representative of carotenoid class of substance" and that the meaning of "representative" is not clear. The examiner stated that it is not clear whether "representative" mean any member of carotenoid substance in any amount, or some particular compounds in particular amounts.

Applicants do not believe that claim 6 is unclear. Some latitude in the manner of expression and the aptness of terms should be permitted even though the claim language is not as precise as the examiner might desire. MPEP 2173.02. Claim 4 recites that the solid preparation of claim 1 has a carotenoid-containing dry powder of at least two carotenoids. Claim 6 narrows the scope of claim 4 by stating that at least two cores are comprised of only one carotenoid.

Claims 1-10 and 19 are rejected under 35 USC § 103(a) as being unpatentable over Akamatsu et al. (US 5,780,056), in view of Khachik (US 5,382,714), Ausick et al. (5,648,564) and Horn et al. (US 4,522,743).

The examiner stated that Akamatsu et al. do not teach expressly that at least two cores of the multi-core structure have different chemical compositions, or that only one representative in the core, or that lutein is one of the carotenoid but that Khachik, and Ausich et al. do teach that lutein is particularly useful in nutritional food composition.

Therefore, the examiner believes it would have been prima facie obvious to a person of ordinary skill in the art, at the time the claimed invention was made, to further incorporate lutein fine particle into the multi-core microcapsules.

Akamatsu et al. disclose microcapsules of a multi-core structure comprising a plurality of particles which are made of a core material comprising natural carotenoid. The primary particles (see figure 1) are identical in composition, each core is identical with respect to the type and amount of the carotenoid/vitamin individual components present therein.

Akamatsu's microcapsules can have problems with stability and bioavailability because in the case of mixtures having extremely different contents of the individual carotenoids, formation of aggregates among carotenoids can lead to unwanted nonhomogeneous distributions of the active compounds.

Very particular preference of the present application is given to dry powders comprising a mixture of beta-carotene, lycopene and lutein. A dry powder of this type comprises a multicore structure of secondary particles in which at least three primary particles have a different carotenoid composition, in each case one particle species comprising only beta-carotene, the second lycopene and the third only lutein.

Applicants' solid preparations prevent or substantially decrease unwanted interactions between the active compounds within the multicore structure by encapsulation of the individual active compounds. The solid preparations also permit more flexible organization of the active compound mixtures.

To imbue one of ordinary skill in the art with knowledge of an invention, when no prior art reference or references of record convey or suggest that knowledge, is to fall victim to the insidious effect of a hindsight syndrome wherein that which only the inventor taught has used against its teacher. *W.L. Core & Associates, Inc. v. Garlock Inc.*, 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983).

The examiner stated that a person of ordinary skill in the art would have been motivated to further incorporate lutein fine particle into the multi-core microcapsules because lutein is known to be similarly useful as a nutritional ingredient. One of ordinary skill in the art would not be aware of the above-mentioned advantages achieved by applicants' solid preparations. Therefore, the examiner uses hindsight reasoning and simply combines the references for teaching of the instant claims.

Ausich et al. (US 5,648,564) as well as Khachik et al. (US 5,382,714) are directed to processes for isolation and purification of xanthophyll crystals. Solid preparations of xanthophylls in form of microcapsules with a multicore structure have a different chemical composition is also not a subject of Horn et al (US 4,522,743). A solid preparation of at least two active compounds suitable for the food sector and animal feed sector or for pharmaceutical and cosmetic applications in the form of a multicore structure in which at least two cores of a multicore structure have different chemical composition also is not a subject of Horn et al. (US 4,522,743).

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Each core of the multicore structure disclosed in Horn et al. (US 4,522,743) has an identical chemical composition containing only one carotenoid. Horn et al. (US

4,522,743) is silent in view of microcapsules comprising a mixture of carotenoids in which each carotenoid is distributed in a separate core.

For the reasons expressed above, it is urged that the prior art references cited by the examiner either singly or in combination fail to anticipate or suggest the present invention as defined by the amended claims. Accordingly, a *prima facie* case of obviousness has not been established by the examiner, and the rejection under 35 USC § 103 should be withdrawn.

**A check in the amount of \$110.00 is attached to cover the required one month extension fee.**

Please charge any shortage in fees due in connection with the filing of this paper, including Extension of Time fees to Deposit Account No. 11-0345. Please credit any excess fees to such account.

Respectfully submitted,

KEIL & WEINKAUF

A handwritten signature in black ink, appearing to read 'H B Keil', written in a cursive style.

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